

7969-309

8/26/2014

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460



OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

August 26, 2014

Michelle Sharpe-Kass  
Product Registration Manager  
BASF Corporation  
26 Davis Drive  
P.O. Box 13528  
Research Triangle Park, NC 27709

Subject: Label Amendment to add minor label revisions  
Sercadis® Xemium® Brand Fungicide  
EPA Registration Number: 7969-309  
Application Date: March 31, 2014  
Decision No: 490470

Dear Ms. Sharpe:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). If you have any questions, please contact Driss Benmhend by phone at (703) 308-9525, or via email at Benmhend.driss@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Suarez".

Mark Suarez, Product Manager 13  
Insecticide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure



The Chemical Company

**ACCEPTED**

08/26/2014

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 7969-309

Group 7 Fungicide

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# Sercadis<sup>®</sup>

## Xemium<sup>®</sup> Brand Fungicide

For disease control in the following crops: barley, berries and small fruits, Brassica leafy vegetables, bulb vegetables, corn (all types), cucurbit vegetables, dried shelled peas and beans, edible-podded legume vegetables, fruiting vegetables, grapes, leafy vegetables, oat, oilseed crops (including flax seed, rapeseed and sunflower), peanut, pome fruits, rice, root vegetables, rye, sorghum and millet, soybean, stone fruits, strawberries, succulent shelled peas and beans, sugar beet, sugarcane, tree nuts, tuberous and corm vegetables (including potato), wheat and triticale

Powered by Xemium<sup>®</sup> fungicide

**Active Ingredient:**

fluxapyroxad\*: 1*H*-Pyrazole-4-carboxamide, 3-(difluoromethyl)-1-methyl-N-(3',4',5'-trifluoro[1,1'-biphenyl]-2-yl)- ..... 26.55%

**Other Ingredients:** ..... 73.45%

**Total:** ..... 100.00%

\*Equivalent to 2.47 pounds of active ingredient per gallon

EPA Reg. No. 7969-309

EPA Est. No.

### KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

### Net Contents:

BASF Corporation  
26 Davis Drive, Research Triangle Park, NC 27709

<b>FIRST AID</b>	
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• <b>DO NOT</b> induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• <b>DO NOT</b> give anything to an unconscious person.</li> </ul>
<b>HOTLINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	

### Precautionary Statements

#### Hazards to Humans and Domestic Animals

**CAUTION.** Harmful if swallowed.

#### Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below. For more options, refer to **Category A** on an EPA chemical-resistance category selection chart.

#### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### Engineering Controls Statement

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

<b>USER SAFETY RECOMMENDATIONS</b>
<p><b>Users should:</b></p> <ul style="list-style-type: none"> <li>• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</li> <li>• Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li> <li>• Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.</li> </ul>

#### Environmental Hazards

This pesticide is toxic to fish. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

**DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark, except as specified in this label for use in rice.

**DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow groundwater.

This product is classified as having high potential for reaching aquatic sediment via runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of this active ingredient or its degradates from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours. Sound erosion control practices will reduce this product's potential to reach aquatic sediment via runoff.

#### Groundwater Advisory

This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

#### Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. **DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

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### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170: This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical resistant gloves (made of any waterproof material)
- Shoes plus socks

### STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, or feed by storage or disposal.

#### Pesticide Storage

Store in original containers only. Keep container closed when not in use. **DO NOT** store near food or feed.

#### Pesticide Disposal

Wastes resulting from using this product may be disposed of on-site or at an approved waste disposal facility. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representatives at the nearest EPA Regional Office for guidance.

#### Container Handling

**Nonrefillable Container. DO NOT reuse or refill this container.** Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

#### Triple rinse containers small enough to shake

**(capacity ≤ 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

### STORAGE AND DISPOSAL (continued)

#### Container Handling (continued)

#### Triple rinse containers too large to shake

**(capacity > 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable Container.** Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

**Triple rinse as follows:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

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## In Case of Emergency

In case of large-scale spillage regarding this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

## Steps to be taken in case material is released or spilled:

- In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to label.
- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

## Product Information

This package contains **Sercadis® Xemium® brand fungicide**, a suspension concentrate (SC) containing the active ingredient fluxapyroxad. The active ingredient in **Sercadis** belongs to the succinate-dehydrogenase (SDH) inhibitor class of fungicides. To maximize disease control, apply **Sercadis** in a regularly scheduled protection spray program and use in a rotation program with other fungicides.

Because of its high specific activity, **Sercadis** has good residual activity against target fungi. **Sercadis** is not for use in greenhouse or transplant production.

## Mode of Action

Fluxapyroxad, the active ingredient of **Sercadis**, belongs to the group of respiration inhibitors classified by the U.S. EPA and Canada PMRA as a target site of action **Group 7** fungicide.

## Resistance Management

**Sercadis** contains fluxapyroxad, a **Group 7** fungicide, and is effective against pathogens resistant to fungicides with modes of action different from those of target site **Group 7**, such as dicarboximides, sterol inhibitors, benzimidazoles, or phenylamides. Fungal isolates resistant to **Group 7** fungicides may eventually dominate the fungal population if **Group 7** fungicides are used predominantly and repeatedly in the same field in successive years as the primary method of control for the targeted pathogen species. This may result in reduction of disease control by **Sercadis** or other **Group 7** fungicides. To maintain the performance of **Sercadis** in the field, **DO NOT** exceed the

specified number of sequential applications of **Sercadis** or the total number of applications of **Sercadis** per season stated in **Table 1. Sercadis® Xemium® brand fungicide Restrictions and Limitations Overview** and **Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions**. Adhere to the label instructions regarding the sequential use of **Sercadis** or other target site of action **Group 7** fungicides that have a similar site of action on the same pathogens.

## Resistance Management Advisory

The following recommendations may be considered to delay the development of fungicide resistance:

1. **Tank mixtures** – Use **Sercadis** in tank mixtures with fungicides from different target site of action groups that are registered/permitted for the same use and that are effective against the pathogens of concern. Use at least the minimum labeled rates of each fungicide in the tank mix. For tank mix exceptions, see **Additives and Tank Mixing Information** section and **Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions**.
2. **IPM** – Integrate **Sercadis** into an overall disease and pest management program. Follow cultural practices known to reduce disease development. Consult your local extension specialist, certified crop advisor and/or BASF representative for additional IPM strategies established for your area. **Sercadis** may be used in agricultural extension advisory (disease forecasting) programs, which recommend application timing based on environmental factors favorable for disease development.
3. **Monitoring** – Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen and record other factors that may influence fungicide performance and/or disease development. If a **Group 7** target site fungicide such as **Sercadis** appears to be less or no longer effective against a pathogen that it previously controlled or suppressed, contact a BASF representative, local extension specialist, or certified crop advisor for further investigation.

## Application Instructions

Apply specified rates of **Sercadis** as instructed in **Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions**. **Sercadis** can be applied by ground and aerial application. For best results, thorough coverage of plant materials is required. **Sercadis** can also be applied through sprinkler irrigation equipment, except for use in rice. Check equipment frequently for calibration.

Under low-level disease conditions, use the minimum application rates; use maximum application rates and shortened spray schedules for severe or threatening disease conditions.

### Cleaning Spray Equipment

Spraying equipment must be cleaned thoroughly before and after applying this product, particularly if a product with potential to injure crops was used prior to **Sercadis® Xemium® brand fungicide**.

### Ground Application

Apply **Sercadis** in sufficient water to ensure thorough coverage of foliage, bloom, and fruit. Thorough coverage is required for optimum disease control. For ground applications to rice, use no less than 15 gallons of spray solution per acre.

### Instructions for Directed or Banded Crop Sprays

The application rates shown in **Table 1. Sercadis® Xemium® brand fungicide Restrictions and Limitations Overview** and **Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** on this label reflect the amount of product to be applied uniformly over an acre of ground on a broadcast basis. In some crops, **Sercadis** may be applied as a directed or banded spray over the rows or plant beds with the alleys or row middles left unsprayed. For such uses, reduce the rate of **Sercadis** in proportion to the area actually sprayed. Make this adjustment to avoid applying the product at use rates higher than permitted on this label.

The following formula may be used to determine the broadcast equivalent rate for doing directed or banded sprays:

$$\text{sprayed bed width} + \text{unsprayed row middle width} = \text{total row width}$$

$$\frac{\text{sprayed bed width in inches}}{\text{total row width in inches}} \times \frac{\text{broadcast rate}}{\text{treated acre}} = \frac{\text{band rate}}{\text{field acre}}$$

**Example:** A directed spray application will be made to 45-inch plant beds that are separated by 15 inches of unsprayed row middles.

$$45 \text{ inches sprayed bed width} + 15 \text{ inches unsprayed row middles} = 60 \text{ inches total row width}$$

The calculation to determine the appropriate equivalent rate of product to use for this situation based on a label broadcast rate of 4.5 fluid ounces product/acre follows:

$$\frac{45 \text{ inches sprayed bed width}}{60 \text{ inches total row width}} \times \frac{4.5 \text{ fl oz Sercadis}}{\text{treated acre}} = \frac{3.4 \text{ fl oz Sercadis}}{\text{field acre}}$$

### Aerial Application

For all crops listed in this label, aerial application can be made and thorough coverage is required to obtain optimum disease control. Avoid applications under conditions when uniform coverage cannot be obtained or when spray

drift may occur. Use no less than 2 gallons of spray solution per acre. For aerial applications to sugarcane, use no less than 5 gallons of spray solution per acre. For aerial applications to rice, use no less than 7 gallons of spray solution per acre. For aerial applications to tree crops, use no less than 10 gallons of spray solution per acre. For all other crops, thorough coverage is required for optimum disease control.

### Adjuvant or Crop Oil Use Limitations on Corn

Adjuvant crop damage can occur when an adjuvant or crop oil is used after the V8 stage and before the VT stage (the VT stage is defined as when the tassel's last branch is completely visible outside the whorl). If an adjuvant or crop oil is used after the V8 stage and before the VT stage, the grower and user are responsible for contacting the adjuvant source (adjuvant distributor, retailer, or manufacturer) for advice and confirmation that the adjuvant has been tested and proven to be safe for application from V8 to VT corn stage. Refer to adjuvant and/or crop oil labels for specific use directions and restrictions. Always follow the most restrictive label.

Another fungicide or an insecticide may be included in the tank mix if needed and labeled for use on corn. Refer to the tank mix pesticide product labels for specific use directions and restrictions. Always follow the most restrictive label.

### Directions For Use Through Sprinkler Irrigation Systems

#### Sprayer Preparation

Clean chemical tank and injector system thoroughly. Flush system with clean water.

#### Application Instructions

Apply **Sercadis** at rates and timings as required in this label.

#### Use Precautions for Sprinkler Irrigation Applications

- **DO NOT** apply by sprinkler irrigation to rice. For all other crops, this product can be applied through sprinkler irrigation systems including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system.
- Add **Sercadis** to the pesticide supply tank containing sufficient water to maintain a continuous flow by the injection equipment. In continuous moving systems, inject this product-water mixture continuously, applying the labeled rate per acre for that crop. **DO NOT** exceed 1/2 inch (13,577 gallons) of water per acre. In stationary or noncontinuous moving systems, inject the product-water mixture in the last 15 to 30 minutes of each set allowing sufficient time for all of the required pesticide to be applied by all the sprinkler heads and applying the labeled rate per acre for that crop. **DO NOT** apply when wind speed favors drift beyond the area intended for

treatment. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. Thorough coverage of foliage is required for good control. Maintain good agitation during the entire application period.

- Contact a state extension service specialist, equipment manufacturers or other experts for calibration questions.
- The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- **DO NOT** connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

### Specific Instructions for Public Water Systems

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the

outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

### Additives and Tank Mixing Information

**Sercadis® Xemium® brand fungicide** can be tank mixed with most recommended fungicides, insecticides, herbicides, liquid fertilizers, biological control products, adjuvants, and additives as specified in **Table 2**.

**Sercadis® Xemium® brand fungicide Crop-specific Directions.** See berries and small fruits subgroups, cucurbit vegetable group, fruiting vegetables group, grapes, and leafy vegetable group in **Table 2**.

**Sercadis® Xemium® brand fungicide Crop-specific Directions** for exceptions.

Under some conditions, the use of additives or adjuvants may improve the performance of **Sercadis**. However, all varieties and cultivars have not been tested with all possible tank mix combinations. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, or crop injury may result from mixing **Sercadis** with other products. Therefore, before using any tank mix (fungicides, insecticides, herbicides, liquid fertilizers, biological control products, adjuvants, and additives), test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of application.

When an adjuvant is to be used with this product, BASF recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

If tank mixtures are used, adhere to restrictions due to rates, label instructions and precautions on all labels.

## Adjuvant or Crop Oil Use Limitations on Corn

Adjuvant crop damage can occur when an adjuvant or crop oil is used after the V8 stage and before the VT stage (the VT stage is defined as when the tassel's last branch is completely visible outside the whorl). If an adjuvant or crop oil is used after the V8 stage and before the VT stage, the grower and user are responsible for contacting the adjuvant source (adjuvant distributor, retailer, or manufacturer) for advice and confirmation that the adjuvant has been tested and proven to be safe for application from V8 to VT corn stage. Refer to adjuvant and/or crop oil labels for specific use directions and restrictions. Always follow the most restrictive label.

Another fungicide or an insecticide may be included in the tank mix if needed and labeled for use on corn. Refer to the tank mix pesticide product labels for specific use directions and restrictions. Always follow the most restrictive label.

### Compatibility Test for Tank Mix Components

Add components in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of label rate per acre:

1. **Water** — For 100 gallons per acre spray volume, use 16 cups (1 gallon) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature.
2. **Water-dispersible products** (dry flowables, wettable powders, suspension concentrates, or suspoemulsions) — Cap the jar and invert 10 cycles.
3. **Water-soluble products** — Cap the jar and invert 10 cycles.
4. **Emulsifiable concentrates** (oil concentrate or methylated seed oil when applicable) — Cap the jar and invert 10 cycles.
5. **Water-soluble additives** — Cap the jar and invert 10 cycles.
6. Let the solution stand for 15 minutes.
7. **Evaluate** the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. **DO NOT** use any spray solution that could clog spray nozzles.

### Mixing Order

1. **Water** — Begin by agitating a thoroughly clean sprayer tank 3/4 full of clean water.
2. **Agitation** — Maintain constant agitation throughout mixing and application.
3. **Inductor** — If an inductor is used, rinse it thoroughly after each component has been added.
4. **Products in PVA bags** — Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.

5. **Water-dispersible products** (such as dry flowables, wettable powders, suspension concentrates including **Sercadis® Xemium® brand fungicide**, or suspo-emulsions)
6. **Water-soluble products**
7. **Emulsifiable concentrates** (such as oil concentrates when applicable)
8. **Water-soluble additives** (such as ammonium sulfate [AMS] or urea ammonium nitrate [UAN] when applicable)
9. **Remaining quantity of water**

Make sure that each component is thoroughly mixed and suspended before adding tank mix partners. Maintain constant agitation during application. See **Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** for more details.

### Restrictions and Limitations

- **DO NOT** exceed the maximum product rate (fl ozs/A) per year (season), the maximum rate per application, or the total number of applications of **Sercadis** per year (season) as stated in **Table 1. Sercadis® Xemium® brand fungicide Restrictions and Limitations Overview** and **Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions**. Preharvest interval (PHI) restrictions are also included in these tables.
- **DO NOT** use **Sercadis** in greenhouse or transplant production.
- **Crop Rotation Restriction** - The following crops may be planted immediately following the last application: barley, berries and small fruits, Brassica leafy vegetables, bulb vegetables, corn (all types), cotton, cucurbit vegetables, dried shelled peas and beans, edible-podded legume vegetables, fruiting vegetables, grapes, leafy vegetables, mint (spearmint and peppermint), nongrass animal feeds (forage, fodder, straw, and hay), oat, oilseed crops (including flax seed, rapeseed and sunflower), peanut, pome fruits, rice, root vegetables, rye, sorghum and millet, soybean, stone fruits, strawberries, succulent shelled peas and beans, sugar beet, sugarcane, tree nuts, tuberous and corn vegetables (including potato), wheat and triticale, and any other crop labeled for direct application of this product.

For all other crops, **DO NOT** plant sooner than 365 days after the last application.

- **Sercadis** is not for sale, distribution, or use in Nassau and Suffolk counties in New York State.

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**Table 1. Sercadis® Xemium® brand fungicide Restrictions and Limitations Overview\***

Crop**	Minimum time from Application to Harvest (PHI) (days)	Maximum Product Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Number of Sequential Applications	Maximum Product Rate per Season (fl ozs/A)
Barley	21	4.5	2	2	9
Berries and small fruits subgroups	0, 14	9.1	3	2	27.3
Brassica leafy vegetables group	3	4.6	3	2	13.8
Bulb vegetables group	7	9.1	3	2	27.3
Corn	21 7 (sweet)	4.5	2	2	9
Cucurbit vegetables group	0	4.6	3	2	13.8
Dried shelled peas and beans (except soybeans)	21	4.5 (9 for dry beans only)	2	2	9 (18 for dry beans only)
Edible-podded legume vegetables	7	4.5	2	2	9
Fruiting vegetables group	0	4.5	3	2	13.5
Grapes – Botrytis disease	14	9.1	3	2	27.3
Grapes – all other diseases	14	4.5	6	2	27
Leafy vegetables group (except Brassica)	1	9.1	3	2	27.3
Oat	21	4.5	2	2	9
Oilseed crops	21	4.5	2	2	9
Peanut	7	4.5	3	2	13.5
Pome fruits group	0	4.5	4	2	18
Rice	28	6.8	2	2	13.6
Root vegetables (except sugar beet) subgroup	7	4.6	3	2	13.8
Rye	21	4.5	2	2	9
Sorghum and millet	21	4.6	2	2	9.2
Soybean	21	4.5	2	2	9
Stone fruits group	0	5.6	3	2	16.8
Strawberries	0	9.1	3	2	27.3
Succulent shelled peas and beans	7	4.5	2	2	9
Sugar beet	7	4.5	3	2	13.5
Sugarcane	14	5.7	2	2	11.4
Tree nuts group	14	5.7	3	2	17.1
Tuberous and corm vegetables subgroup	7	4.5	3	2	13.5
Wheat and triticale	21	4.5	2	2	9

\*See Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions for additional directions.

\*\*For a complete list of crops within a crop group, see Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions.

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions**

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Barley	Black point (Kernel blight or Head mold) ( <i>Cochliobolus sativus</i> , <i>Alternaria</i> spp.)  Leaf rust ( <i>Puccinia</i> spp.)  Net blotch ( <i>Pyrenophora teres</i> )  Powdery mildew ( <i>Blumeria graminis</i> f. sp. <i>hordei</i> )  Scald ( <i>Rhynchosporium secalis</i> )  Septoria leaf and glume blotch ( <i>Septoria</i> spp., <i>Stagonospora</i> spp.)  Spot blotch ( <i>Cochliobolus sativus</i> )  Stem rust ( <i>Puccinia graminis</i> f. sp. <i>tritici</i> )  Stripe rust ( <i>Puccinia striiformis</i> )  Tan spot (Yellow leaf spot) ( <i>Pyrenophora</i> spp.)	2.3 to 4.5	2	9	21

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development. Use higher rate when disease pressure is high. To maximize yields in cereals, it is important to protect the flag leaf. Apply **Sercadis** immediately after flag leaf emergence for optimum results.

**Sercadis** does not control Fusarium head blight (head scab) or prevent the reductions in grain quality that can result from this disease. When head blight is a concern, growers should manage this disease with fungicides that are labeled for and effective in managing this disease, and with cultural practices like crop rotation and plowing to reduce crop residues that serve as an inoculum source.

**DO NOT** harvest barley hay or feed green-chopped barley within 7 days of last application.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<p><b>Berries and small fruits subgroups*</b></p> <p><b>Bushberry subgroup</b>            Blueberry* (highbush and lowbush)            Currant            Elderberry            Gooseberry            Huckleberry            Cultivars, varieties, and/or hybrids of these</p> <p><b>Caneberry subgroup</b>            Blackberry (all varieties)            Loganberry            Raspberry (black and red)            Wild raspberry            Cultivars, varieties, and/or hybrids of these</p>	<p>Alternaria leaf spot and fruit rot (<i>Alternaria</i> spp.)</p> <p>Leaf spot and blotch (<i>Mycosphaerella</i> spp., <i>Septoria</i> spp.)</p> <p>Phomopsis leaf spot, twig blight, and fruit rot (<i>Phomopsis</i> spp.)</p> <p>Powdery mildew (<i>Sphaerotheca</i> spp., <i>Microshaera</i> spp., <i>Oidium</i> spp.)</p> <p>Spur blight (<i>Didymella</i> spp., <i>Phoma</i> spp.)</p> <p><b>Suppression only</b></p> <p>Rust (<i>Pucciniastrum</i> spp., <i>Arthuriomyces</i> spp., <i>Phragmidium</i> spp., <i>Kuehneola</i> spp.)</p>	<p>3.4 to 9.1</p>	<p>3</p>	<p>27.3</p>	<p>0 (bushberry, caneberry, and low growing berry)</p>
<p><b>Low growing berry subgroup</b>            Bearberry            Bilberry            Cloudberry            Cranberry            Lingonberry            Muntries            Partridgeberry            Cultivars, varieties, and/or hybrids of these</p>	<p>Botrytis gray mold (<i>Botrytis cinerea</i>)</p> <p>Monilinia blight and mummy berry (<i>Monilinia</i> spp.)</p>	<p>4.6 to 9.1</p>			
<p><b>Small fruit vine climbing subgroup, (except fuzzy kiwifruit)</b>            Amur river grape            Gooseberry            Kiwifruit, hardy            Maypop            Schisandra berry            Cultivars, varieties, and/or hybrids of these</p>					<p>14 (small fruit vine climbing)</p>

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

**Berries and small fruits subgroups\*** *(continued)*

**Application Directions.** Begin applications of **Sercadis** prior to onset of disease development and continue on a 7 to 14 day interval. Use the shorter interval and/or the higher rate when disease pressure is high.

**DO NOT** apply **Sercadis** to any crops in the berries and small fruits subgroups, including blueberries (highbush and lowbush), as a tank mix with any other pesticide products (including fungicides, insecticides, herbicides), adjuvants, liquid fertilizers, nutrients, any other additives, or anything other than water.

Mix **Sercadis** with water only for applications to crops listed in the berries and small fruits subgroups.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 27.3 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

\*Not registered for use in California.

*(continued)*

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Brassica leafy vegetables group*</b>	Alternaria leaf spot ( <i>Alternaria</i> spp.)	3.4 to 4.6	3	13.8	3
<b>Head and stem</b>	Black leg ( <i>Phoma lingam</i> )				
Broccoli	Cercospora leaf spot ( <i>Cercospora brassicicola</i> )				
Broccoli, Chinese	Powdery mildew ( <i>Erysiphe polygoni</i> )				
Brussels sprouts	Rhizoctonia blight ( <i>Rhizoctonia solani</i> )				
Cabbage	Ring spot ( <i>Mycosphaerella brassicicola</i> )				
Cabbage, Chinese	White leaf spot ( <i>Pseudocercospora capsellae</i> )				
Cabbage, Chinese mustard	<b>Suppression only</b>				
Cauliflower	Sclerotinia stem rot ( <i>Sclerotinia sclerotiorum</i> )				
Cavalo broccolo	Southern blight ( <i>Sclerotium rolfsii</i> )				
Kohlrabi					
<b>Leafy greens.</b>					
Broccoli raab					
Chinese cabbage (bok choy)					
Collards					
Kale					
Mizuna					
Mustard greens					
Mustard spinach					
Rape greens					

**Application Directions.** Begin applications of **Sercadis** prior to onset of disease development and continue on a 7 to 14 day interval.

Use the shorter interval and/or the higher rate when disease pressure is high.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 13.8 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

\*Not registered for use in California.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Bulb vegetables group*</b> Chive, Chinese, fresh leaves Chive, fresh leaves Daylily, bulb Elegans hosta Fritillaria, bulb Fritillaria, leaves Garlic, bulb Garlic, great-headed, bulb Garlic, serpent, bulb Kurrat Lady's leek Leek Leek, wild Lily, bulb Onion, Beltsville bunching Onion, bulb Onion, Chinese, bulb Onion, fresh Onion, green Onion, macrostem Onion, pearl Onion, potato, bulb Onion, tree, tops Onion, Welsh, tops Shallot, bulb Shallot, fresh leaves Cultivars, varieties, and/or hybrids of these	Powdery mildew ( <i>Leveillula taurica</i> )	3.4 to 9.1	3	27.3	7
	Purple blotch and leaf blight ( <i>Alternaria porri</i> ) Rust ( <i>Puccinia porri</i> ) Stemphylium leaf blight and stalk rot ( <i>Stemphylium vesicarium</i> )	4.6 to 9.1			
	Botrytis leaf blight ( <i>Botrytis</i> spp.) Botrytis neck rot ( <i>Botrytis</i> spp.)				

**Application Directions.** Begin applications of **Sercadis** prior to onset of disease development and continue on a 7 to 14 day interval. Use the shorter interval and/or the higher rate when disease pressure is high.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 27.3 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

\*Not registered for use in California.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Corn</b> Field corn Pop corn Sweet corn Seed production corn	Eyespot <i>(Kabatiella zaeae)</i> Gray leaf spot <i>(Cercospora zaeae-maydis)</i> Northern corn leaf blight <i>(Exserohilum turcicum)</i> Northern corn leaf spot <i>(Cochliobolus carbonum)</i> Physoderma brown spot <i>(Physoderma maydis)</i> Rust, common <i>(Puccinia sorghi)</i> Rust, southern <i>(Puccinia polyspora)</i> Southern corn leaf blight <i>(Bipolaris maydis)</i> Yellow leaf blight <i>(Phyllosticta maydis)</i>	2.3 to 4.5	2	9	21 (7 sweet corn only)

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development. For aerial application directions to corn refer to the **Adjuvant or Crop Oil Use Limitations on Corn** section.

**Sercadis** may be used with adjuvants. See the **Additives and Tank Mixing Information** and **Mixing Order** sections for more details.

**Adjuvant or Crop Oil Use Limitations on Corn.** Adjuvant crop damage can occur when an adjuvant or crop oil is used after the V8 stage and before the VT stage (the VT stage is defined as when the tassel's last branch is completely visible outside the whorl). If an adjuvant or crop oil is used after the V8 stage and before the VT stage, the grower and user are responsible for contacting the adjuvant source (adjuvant distributor, retailer, or manufacturer) for advice and confirmation that the adjuvant has been tested and proven to be safe for application from V8 to VT corn stage. Refer to adjuvant and/or crop oil labels for specific use directions and restrictions. Always follow the most restrictive label.

Another fungicide or an insecticide may be included in the tank mix if needed and labeled for use on corn. Refer to the tank mix pesticide product labels for specific use directions and restrictions. Always follow the most restrictive label.

**DO NOT** harvest for forage within 7 days of last application.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Cucurbit vegetables group*</b> Chayote Chinese waxgourd Citron melon Cucumber Gherkin Pumpkin Watermelon	Alternaria leaf blight ( <i>Alternaria cucumerina</i> ) Powdery mildew ( <i>Podosphaera</i> spp., <i>Sphaerotheca</i> spp., <i>Erysiphe</i> spp.)	3.4 to 4.6	3	13.8	0
<b>Edible gourd</b> Chinese okra Cucuzza Hyotan <b>Momordica spp.</b> Balsam apple Balsam pear Bitter melon Chinese cucumber	Cercospora leaf spot ( <i>Cercospora citrulina</i> ) Gummy stem blight ( <i>Didymella bryoniae</i> ) Microdochium blight ( <i>Plectosporium tabacinum</i> ) Target leaf spot ( <i>Corynespora cassicola</i> )	4.6			
<b>Muskmelon</b> Cantaloupe Casaba Crenshaw melon Golden pershaw melon Honeydew melon Honey balls Mango melon Persian melon Pineapple melon Santaclaus melon Snake melon					
<b>Summer squash</b> Crookneck squash Scallop squash Straightneck squash Vegetable marrow Zucchini					
<b>Winter squash</b> Acorn squash Butternut squash Calabaza Hubbard squash Spaghetti squash					

*(continued)*

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

**Cucurbit vegetables group\*** *(continued)*

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high.

**DO NOT** apply **Sercadis** to any crops in the cucurbit vegetable group as a tank mix with any other pesticide products (including fungicides, insecticides, herbicides), adjuvants, liquid fertilizers, nutrients, any other additives, or anything other than water. See **Resistance Management** section below for tank mix exception for gummy stem blight resistance.

Mix **Sercadis** with water only for applications to crops listed in the cucurbit vegetable group.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 13.8 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide. In areas where gummy stem blight resistance to **Group 7** fungicides have been confirmed, tank mix with chlorothalonil at full label rates and adhering to all label precautions.

\*Not registered for use in California.

*(continued)*

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Dried shelled peas and beans (except soybeans)</b> Broad bean Chickpea (garbanzo bean) Guar Lablab bean Lentils Pigeon pea <u>Lupinus spp.</u> Grain lupin Sweet lupin White lupin <u>Phaseolus spp.</u> Field bean Kidney bean Lima bean Navy bean Pink bean Pinto bean Tepary bean <u>Pisum spp.</u> Field pea <u>Vigna spp.</u> Adzuki bean Blackeyed pea Catjang Cowpea Crowder pea Moth bean Mung bean Rice bean Southern pea Urd bean	Alternaria leaf and pod spot ( <i>Alternaria</i> spp.) Ascochyta blight ( <i>Phoma exigua</i> , <i>Ascochyta</i> spp.) Botrytis gray mold ( <i>Botrytis cinerea</i> ) Cercospora leaf spot ( <i>Cercospora</i> spp.) Mycosphaerella blight ( <i>Mycosphaerella</i> spp.) Powdery mildew ( <i>Erysiphe polygoni</i> ) Rust ( <i>Uromyces appendiculatus</i> ) White mold ( <i>Sclerotinia sclerotiorum</i> )	4.5 (up to 9 for dry beans only)	2	9 (up to 18 for dry beans only)	21

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development or at the beginning of flowering.

Ascochyta blight in chickpeas and lentils develops quickly once established, so early detection and application is essential to reduce losses.

Bean forage, bean hay, pea vines, and pea hay may be fed no sooner than 7 days after last application.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

**Dried shelled peas and beans (except soybeans)** *(continued)*

**Use of adjuvants.** The use of additives or adjuvants may improve the performance of **Sercadis** on dried shelled peas and beans (legumes). However, BASF evaluations also indicate that under some conditions (particularly high temperatures and/or high additive rates), application of **Sercadis** in combination with certain rates of silicone-based or oil-containing (petroleum or crop) additives or adjuvants can cause injury to some legume crops.

BASF has not tested all varieties and cultivars with all possible tank mix combinations and rates of additives or adjuvants. Local environmental conditions also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, crop injury, or incompatibility due to additives, adjuvants or other products used in combination with **Sercadis** may result from mixing **Sercadis** with other products. Refer also to the **Conditions of Sale and Warranty** section of this label.

To minimize the likelihood of crop injury, BASF recommends testing **Sercadis** in combination with other products for crop safety on a small portion of the crop. However, environmental variability precludes direct and consistent projection of small area test results to future use.

Consult a BASF representative for more information concerning additives or adjuvants.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season (18 fl ozs for dry beans). **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

*(continued)*

**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Edible-podded legume vegetables</b>	Alternaria leaf and pod spot ( <i>Alternaria</i> spp.)	4.5	2	9	7
Jack bean	Ascochyta blight ( <i>Phoma exigua</i> , <i>Ascochyta</i> spp.)				
Pigeon pea	Botrytis gray mold ( <i>Botrytis cinerea</i> )				
Soybean (immature seed)	Cercospora leaf spot ( <i>Cercospora</i> spp.)				
Sword bean	Mycosphaerella blight ( <i>Mycosphaerella</i> spp.)				
<i>Phaseolus</i> spp.	Powdery mildew ( <i>Erysiphe polygoni</i> )				
Runner bean	Rust ( <i>Uromyces appendiculatus</i> )				
Snap bean	White mold ( <i>Sclerotinia sclerotiorum</i> )				
Wax bean					
<i>Pisum</i> spp.					
Dwarf pea					
Edible-podded pea					
Snowpea					
Sugar snap pea					
<i>Vigna</i> spp.					
Asparagus bean					
Chinese longbean					
Moth bean					
Yardlong bean					

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development.

Bean forage, bean hay, pea vines, and pea hay may be fed no sooner than 7 days after last application.

**Use of adjuvants.** The use of additives or adjuvants may improve the performance of **Sercadis** on legumes. However, BASF evaluations also indicate that under some conditions (particularly high temperatures and/or high additive rates), application of **Sercadis** in combination with certain rates of silicone-based or oil-containing (petroleum or crop) additives or adjuvants can cause injury to some legume crops.

BASF has not tested all varieties and cultivars with all possible tank mix combinations and rates of additives or adjuvants. Local environmental conditions also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, crop injury, or incompatibility due to additives, adjuvants or other products used in combination with **Sercadis** may result from mixing **Sercadis** with other products. Refer also to the **Conditions of Sale and Warranty** section of this label.

To minimize the likelihood of crop injury, BASF recommends testing **Sercadis** in combination with other products for crop safety on a small portion of the crop. However, environmental variability precludes direct and consistent projection of small area test results to future use.

Consult a BASF representative for more information concerning additives or adjuvants.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Fruiting vegetables group</b> Eggplant Ground cherry Pepino Pepper (all varieties) Tomatillo Tomato	Black mold ( <i>Alternaria alternata</i> )	3.4 to 4.5	3	13.5	0
		or			
	Botrytis gray mold ( <i>Botrytis cinerea</i> )	3.4 to 4.5 fl ozs per 100 gallons of spray volume (dilute)*			
	Early blight ( <i>Alternaria solani</i> )				
	Powdery mildew ( <i>Leveillula taurica</i> )				
	Septoria leaf spot ( <i>Septoria lycopersici</i> )				
	Target spot ( <i>Corynespora cassicola</i> )				
White mold ( <i>Sclerotinia sclerotiorum</i> )					

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high.

Applications using drip irrigation systems may provide disease suppression. The level and consistency of suppression from drip line applications varies with the soil type, level of inoculum, irrigation volumes, environment and other factors. See your local BASF representative for details on drip irrigation use in your area.

\*For applications based on dilute volume, plants should be sprayed to runoff. Apply a minimum of 20 gallons of spray volume per acre, and increase the spray volume as the plants grow during the season. Spray volume should be proportional to the amount of plant tissue to be covered such that 100 gallons of spray per acre is used on mature plants.

**Use of Adjuvants and Other Products as Mixes with Sercadis.**

**Sercadis** can be used with nonionic surfactants at their lowest label rate up to 0.125%. When **Sercadis** is mixed with buffering agents and foliar nutrients, the pH of the final spray solution must be greater than 5.5.

**DO NOT** mix **Sercadis** with the following products:

- Emulsifiable concentrate (EC) formulation or solvent-based formulation products.
- Crop oil concentrate (COC), methylated seed oil (MSO), organosilicone (OS) or MSO/OS blended adjuvant products.

For **Sercadis** applications to **fresh market tomatoes** at less than 20 gallons per acre, **DO NOT** mix **Sercadis** with any other products, adjuvants, additives, nutrients or anything other than water.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 13.5 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Grapes	Powdery mildew ( <i>Erysiphe necator</i> )	2.0 to 4.5	6	27	14
	Black rot ( <i>Guignardia bidwellii</i> )	4.5			
	Botrytis gray mold ( <i>Botrytis cinerea</i> ) <b>Aids in control:</b> Summer-bunch rot ( <i>Aspergillus</i> spp., <i>Alternaria</i> spp., <i>Botrytis</i> spp., <i>Cladosporium</i> spp., <i>Penicillium</i> spp., <i>Rhizopus</i> spp.)	4.5 to 9.1	3	27.3	

**Application Directions.** For powdery mildew control, begin applications of **Sercadis** as of bud break or prior to onset of disease. When using the lower rate, continue on a 10 to 14 day interval. Longer spray intervals for powdery mildew control may be possible with higher rates of **Sercadis**. The effectiveness of longer spray intervals will depend on the current powdery mildew infection level in the field, the amount of disease pressure after application and factors such as crop growth stage and rate of growth.

**For black rot control,** begin applications of **Sercadis** before pre-bloom and continue on a 10 to 14 day interval. Begin applications targeted against **Botrytis gray mold** prior to disease development when conditions favor disease development during early bloom, bunch preclosure and veraison. Use the higher rates from bunch preclosure to veraison. Use shorter intervals when disease pressure is high.

**For all other diseases listed,** begin applications of **Sercadis** prior to onset of disease development and continue on a 10 to 14 day interval. Use the higher rate and shorter interval when disease pressure is high.

**DO NOT** apply **Sercadis** to grapes as a tank mix with any other pesticide products (including fungicides, insecticides, herbicides), adjuvants, liquid fertilizers, nutrients, any other additives, or anything other than water.

Mix **Sercadis** with water only for application to grapes.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 27.3 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Leafy vegetables group* (except Brassica)</b> Amaranth Arugula Cardoon Celery Celery, Chinese Celtuce Chervil Chrysanthemum (edible-leaved and garland) Corn salad Cress (garden and Upland) Dandelion Dock Endive Fennel, Florence Lettuce (head and leaf) Orach Parsley Purslane (garden and winter) Radicchio (red chicory) Rhubarb Spinach Spinach (New Zealand and vine) Swiss chard	Alternaria leaf spot ( <i>Alternaria</i> spp.) Ascochyta leaf spot ( <i>Ascochyta</i> spp.) Cercospora leaf spot ( <i>Cercospora</i> spp.) Phoma ( <i>Phoma</i> spp.) Powdery mildew ( <i>Erysiphe</i> spp., <i>Phyllactinia</i> spp., <i>Sphaerotheca</i> spp.) Rust ( <i>Puccinia</i> spp., <i>Uromyces</i> spp.) Septoria leaf spot ( <i>Septoria</i> spp.) Lettuce drop caused by <i>Sclerotinia minor</i>	3.4 to 9.1	3	27.3	1
	Botrytis rot ( <i>Botrytis</i> spp.) <b>Suppression only</b> Lettuce drop caused by <i>Sclerotinia sclerotiorum</i>	4.6 to 9.1			

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

**Leafy vegetables group\* (except Brassica)** *(continued)*

**Application Directions.** Begin applications of **Sercadis** prior to onset of disease development and continue on a 7 to 14 day interval. Use the shorter interval and/or the higher rate when disease pressure is high.

**Tank Mix Restrictions**

**Spinach (all varieties).** **DO NOT** apply **Sercadis** to spinach as a tank mix with any other pesticide products (including fungicides, insecticides, herbicides), adjuvants, liquid fertilizers, nutrients, any other additives, or anything other than water.

Mix **Sercadis** with water only for applications to spinach (all varieties).

**Leafy vegetables (except spinach).** It is impossible for BASF to test all varieties of leafy vegetables for sensitivity to **Sercadis** under all environments and all potential product mixture combinations. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Proceed with caution with regard to **Sercadis** use, particularly in tank mixes and/or adjuvant combinations on leafy vegetables. To reduce the risk of leafy vegetable injury, BASF recommends testing **Sercadis** or **Sercadis** tank mixtures on a small portion of the crop before broadscale use.

To the extent consistent with applicable law, the user assumes all risks associated with adding products to the **Sercadis** spray solution. Refer also to the **Conditions of Sale and Warranty** section of this label.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 27.3 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

\*Not registered for use in California.

*(continued)*

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Oat	Crown rust ( <i>Puccinia coronata</i> ) Helminthosporium leaf spot ( <i>Dreschlera avenae</i> ) Leaf blotch ( <i>Pyrenophora avenae</i> ) Leaf rust ( <i>Puccinia</i> spp.) Septoria blotch and stem rot ( <i>Septoria</i> spp., <i>Phaeosphaeria</i> spp., <i>Stagonospora</i> spp.) Spot blotch ( <i>Bipolaris</i> spp.) Stem rust ( <i>Puccinia graminis</i> )	2.3 to 4.5	2	9	21

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development. To maximize yields in cereals, it is important to protect the flag leaf. Apply **Sercadis** immediately after flag leaf emergence for optimum results.

**Sercadis** does not control Fusarium head blight (head scab) or prevent the reductions in grain quality that can result from this disease. When head blight is a concern, growers should manage this disease with fungicides that are labeled for and effective in managing this disease, and with cultural practices like crop rotation and plowing to reduce crop residues that serve as an inoculum source.

**DO NOT** harvest oat hay or feed green-chopped oats within 7 days of last application.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Oilseed crops Flax seed	PasmO ( <i>Septoria linicola</i> )	2.3 to 4.5	2	9	21
Rapeseed (cultivars, varieties, and/or hybrids, including canola and crambe)	Blackleg ( <i>Leptosphaeria maculans</i> ) Blackspot ( <i>Alternaria</i> spp.)				
	White mold/Sclerotinia stem rot ( <i>Sclerotinia sclerotiorum</i> )	4.5			
Sunflower	Alternaria leaf spot ( <i>Alternaria</i> spp.) Cercospora leaf spot ( <i>Cercospora helianthi</i> ) Powdery mildew ( <i>Erysiphe cichoracearum</i> ) Rust: ( <i>Puccinia helianthi</i> , <i>Uromyces</i> spp.) Sclerotinia head blight ( <i>Sclerotinia sclerotiorum</i> ) Septoria leaf spot ( <i>Septoria</i> spp.)	2.3 to 4.5			

*(continued)*

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Oilseed crops</b> <i>(continued)</i> Borage Castor oil plant Chinese tallowtree Crambe Cuphea Echium Euphorbia Evening primrose Gold of pleasure (camelina) Hare's ear mustard Jojoba Lesquerella Lunaria Meadowfoam Milkweed Mustard seed Niger seed Oil radish Poppy seed Rose hip Safflower Sesame Stokes aster Sweet rocket Tallowwood Tea oil plant Vernonia	<i>Alternaria</i> spp. <i>Septoria</i> spp. <i>Sclerotinia</i> spp.	2.3 to 4.5	2	9	21

**Application Directions for Rapeseed.** For the control of blackleg, apply **Sercadis** at the 2 to 4 leaf stage. For optimal control of blackspot, apply **Sercadis** at early pod development. For control of *Sclerotinia*, apply **Sercadis** at 20% to 50% flowering or prior to the onset of disease. A second application may be made 14 days later if weather conditions are favorable for disease development.

**Application Directions for Other Oilseed Crops.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high.

No livestock feeding restrictions.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

*(continued)*

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Peanut	Pepper spot <i>(Leptosphaerulina crassiasca)</i>  Rust <i>(Puccinia arachidis)</i>  Web blotch <i>(Phoma arachidicola)</i>	2.3 to 4.5	3	13.5	7
	Rhizoctonia limb rot, Peg rot and Pod rot <i>(Rhizoctonia solani)</i>  Sclerotinia blight <i>(Sclerotinia minor)</i> <b>Suppression only</b> Sclerotium rot - Southern stem rot, Southern blight and White mold <i>(Sclerotium rolfsii)</i>  Cylindrocladium black rot <i>(Cylindrocladium parasiticum)</i>	4.5			

**Application Directions.** For control of pepper spot, rust and web blotch, begin applications of **Sercadis** prior to disease development and continue on a 14 to 21 day interval.

For control of Rhizoctonia and Sclerotium, begin applications of **Sercadis** prior to disease development and continue on a 14 to 28 day interval.

Use the higher rate and/or shorter spray interval when disease pressure is high or in fields with a history of disease.

Peanut meal may be fed. **DO NOT** graze or harvest for forage use.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 13.5 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

*(continued)*

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Pome fruits group</b>	Alternaria blotch ( <i>Alternaria mali</i> )	4.5	4	18	0
Apple	Apple scab ( <i>Venturia inaequalis</i> )				
Crabapple					
Loquat					
Mayhaw	Bitter rot ( <i>Colletotrichum</i> spp.)				
Oriental pear					
Pear	Black rot/Frogeye leaf spot ( <i>Botryosphaeria obtusa</i> )				
Quince	Brooks spot ( <i>Mycosphaerella pomi</i> )				
	Flyspeck ( <i>Zygothiala jamaicensis</i> )				
	Pear scab ( <i>Venturia pirina</i> )				
	Powdery mildew ( <i>Podosphaera leucotricha</i> )				
	Sooty blotch (disease complex)				
	White rot ( <i>Botryosphaeria dothidea</i> )				
	<b>Suppression only</b>				
	Cedar apple rust ( <i>Gymnosporangium juniperi-virginianae</i> )				
	Quince rust ( <i>Gymnosporangium clavipes</i> )				

**Application Directions.** For scab, powdery mildew, frogeye leafspot and rust, begin applications of **Sercadis** prior to disease development and continue on a 7 to 10 day interval.

For sooty blotch, flyspeck, white rot, black rot, bitter rot and Alternaria blotch, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval.

For aerial application to pome fruit trees, use no less than 10 gallons of spray solution per acre.

No restriction on livestock grazing or feeding.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 18 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than four (4) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Rice (including wild rice)	Aggregate sheath spot ( <i>Rhizoctonia oryzae-sativae</i> ) Sheath blight ( <i>Rhizoctonia solani</i> )	4.5 to 6.8	2	13.6	28

**Application Directions.** Begin applications of **Sercadis** at the first sign of disease. Repeat applications on 7 to 14 day intervals as needed if conditions for disease infection continue. Use the shorter interval and/or the higher rate when disease pressure is high.

**Sercadis** can be applied by ground sprayer or aerial equipment. For ground application, apply a minimum of 15 gpa (gallons per acre) spray solution. For aerial application, apply 7 to 10 gpa spray solution. **DO NOT** apply **Sercadis** through any type of irrigation system. Apply **Sercadis** with a non-ionic spray (NIS) adjuvant at 0.25% v/v. Under hot weather conditions apply **Sercadis** with 1% COC. BASF recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 13.6 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Root vegetables (except sugar beet) subgroup*</b>	Alternaria leaf spot/blight ( <i>Alternaria</i> spp.)	3.4 to 4.6	3	13.8	7
Beet, garden	Powdery mildew ( <i>Erysiphe</i> spp., <i>Leveillula</i> spp.)				
Burdock, edible					
Carrot					
Celeriac					
Chervil, turnip-rooted	Cercospora leaf spot/blight ( <i>Cercospora</i> spp.)	4.6			
Chicory					
Ginseng	<b>Suppression only</b>				
Horseradish					
Parsley, turnip-rooted	Sclerotinia white mold/cottony rot ( <i>Sclerotinia sclerotiorum</i> )				
Parsnip					
Radish					
Radish, Oriental					
Rutabaga					
Salsify	Southern blight ( <i>Sclerotium rolfsii</i> )				
Salsify, black					
Salsify, Spanish					
Skirret					
Turnip					

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 13.8 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

\*Not registered for use in California.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Rye	Black point (Kernel blight or Head mold) <i>(Cochliobolus sativus, Alternaria spp.)</i>  Leaf rust <i>(Puccinia spp.)</i>  Powdery mildew <i>(Blumeria graminis f. sp. secalis)</i>  Scald <i>(Rhynchosporium secalis)</i>  Septoria leaf and glume blotch <i>(Septoria spp., Stagonospora spp.)</i>  Spot blotch <i>(Cochliobolus sativus)</i>  Stem rust <i>(Puccinia graminis f. sp. tritici)</i>  Stripe rust <i>(Puccinia striiformis)</i>  Tan spot (Yellow leaf spot) <i>(Pyrenophora spp.)</i>	2.3 to 4.5	2	9	21

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development. Use higher rate when disease pressure is high. To maximize yields in cereals, it is important to protect the flag leaf. Apply **Sercadis** immediately after flag leaf emergence for optimum results.

**Sercadis** does not control Fusarium head blight (head scab) or prevent the reductions in grain quality that can result from this disease. When head blight is a concern, growers should manage this disease with fungicides that are labeled for and effective in managing this disease, and with cultural practices like crop rotation and plowing to reduce crop residues that serve as an inoculum source.

**DO NOT** harvest rye hay or feed green-chopped rye within 7 days of last application.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Sorghum*</b> Milo*  <b>Millet*</b> (pearl and proso)	Gray leaf spot and Cercospora leaf spot ( <i>Cercospora</i> spp.)  Northern leaf blight ( <i>Exserohilum turcicum</i> )  Rust ( <i>Puccinia</i> spp.)  Southern leaf blight and <i>Bipolaris</i> leaf spot ( <i>Bipolaris</i> spp.)	3.4 to 4.6	2	9.2	21

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development. Use the higher rate when disease pressure is high.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9.2 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than two (2) sequential applications of **Sercadis** before alternating to a **non-Group 7** fungicide.

\*Not registered for use in California.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Soybean	Alternaria leaf spot ( <i>Alternaria</i> spp.) Brown spot ( <i>Septoria glycines</i> ) Cercospora blight ( <i>Cercospora kikuchii</i> ) Frogeye leaf spot ( <i>Cercospora sojina</i> ) Pod and stem blight ( <i>Diaporthe phaseolorum</i> ) Rhizoctonia aerial blight ( <i>Rhizoctonia solani</i> )	2.3 to 4.5	2	9	21
	<b>Suppression only</b> Southern blight ( <i>Sclerotium rolfsii</i> )	4.5			

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development. Use the higher rate when disease pressure is high.

**Sercadis** may be used with adjuvants. See the **Additives and Tank Mixing Information** and **Mixing Order** sections for more details.

Soybean forage may be fed no sooner than 7 days after last application. Soybean hay may be fed no sooner than 14 days after last treatment.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Stone fruits group</b>	Alternaria leaf spot ( <i>Alternaria</i> spp.)	5.6	3	16.8	0
Apricot	Blossom blight ( <i>Monilinia</i> spp.)				
Apricot, Japanese	Blue Mold ( <i>Penicillium</i> spp.)				
Capulin	Brown rot ( <i>Monilinia</i> spp.)				
Cherry, black	Gray Mold ( <i>Botrytis</i> spp.)				
Cherry, Nanking	Leaf spot ( <i>Blumeriella jaapii</i> )				
Cherry, sweet	Powdery mildew ( <i>Sphaerotheca</i> spp., <i>Podosphaera</i> spp.)				
Cherry, tart	Ripe fruit rot ( <i>Monilinia fruticola</i> , <i>Monilinia laxa</i> , <i>Botrytis cinerea</i> , <i>Rhizopus</i> spp.)				
Jujube, Chinese	Rust ( <i>Tranzschelia discolor</i> )				
Nectarine	Scab ( <i>Cladosporium carpophilum</i> )				
Peach	Shothole ( <i>Wilsonomyces carpophilus</i> )				
Plum					
Plum, American					
Plum, beach					
Plum, Canada					
Plum, cherry					
Plum, Chickasaw					
Plum, Damson					
Plum, Japanese					
Plum, Klamath					
Plum, prune					
Plumcot					
Sloe					
Cultivars, varieties, and/or hybrids of these					

**Application Directions.** For optimal disease control, begin application of **Sercadis** at pink bud or prior to the onset of disease development and continue on a 7 to 14 day interval. Use the shorter interval when disease pressure is high. For aerial application to stone fruit trees, use no less than 10 gallons of spray solution per acre.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 16.8 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Strawberries*	Leaf spot ( <i>Mycosphaerella fragariae</i> , <i>Ramularia tulasnei</i> )	3.4 to 5.7	3	27.3	0
	Powdery mildew ( <i>Sphaerotheca macularis</i> )				
	Botrytis gray mold ( <i>Botrytis cinerea</i> )	6.9 to 9.1			

**Application Directions.** Begin applications of **Sercadis** no later than 10% bloom, or prior to disease development and continue on a 7 to 14 day interval. Use the shorter interval and/or the higher rate when disease pressure is high.

The restricted entry interval (REI) for treated strawberries is **12 hours**. Refer to the **Agricultural Use Requirements** section for PPE required for early entry to treated areas as permitted under the Worker Protection Standard.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 27.3 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

\*Not registered for use in California.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Succulent shelled peas and beans</b>	Alternaria leaf and pod spot ( <i>Alternaria</i> spp.)	4.5	2	9	7
Pigeon pea	Ascochyta blight ( <i>Phoma exigua</i> , <i>Ascochyta</i> spp.)				
<i>Phaseolus</i> spp.	Botrytis gray mold ( <i>Botrytis cinerea</i> )				
Lima bean, green	Cercospora leaf spot ( <i>Cercospora</i> spp.)				
<i>Pisum</i> spp.	Mycosphaerella blight ( <i>Mycosphaerella</i> spp.)				
English pea	Powdery mildew ( <i>Erysiphe polygoni</i> )				
Garden pea	Rust ( <i>Uromyces appendiculatus</i> )				
Green pea	White mold ( <i>Sclerotinia sclerotiorum</i> )				
Broad bean					
<i>Vigna</i> spp.					
Blackeyed pea					
Cowpea					
Southern pea					

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval if conditions are conducive for disease development. Use the shorter interval when disease pressure is high.

Bean forage, bean hay, pea vines, and pea hay may be fed no sooner than 7 days after last application.

**Use of adjuvants.** The use of additives or adjuvants may improve the performance of **Sercadis** on succulent shelled peas and beans (legumes). However, BASF evaluations also indicate that under some conditions (particularly high temperatures and/or high additive rates), application of **Sercadis** in combination with certain rates of silicone-based or oil-containing (petroleum or crop) additives or adjuvants can cause injury to some legume crops.

BASF has not tested all varieties and cultivars with all possible tank mix combinations and rates of additives or adjuvants. Local environmental conditions also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, crop injury, or incompatibility due to additives, adjuvants or other products used in combination with **Sercadis** may result from mixing **Sercadis** with other products. Refer also to the **Conditions of Sale and Warranty** section of this label.

To minimize the likelihood of crop injury, BASF recommends testing **Sercadis** in combination with other products for crop safety on a small portion of the crop. However, environmental variability precludes direct and consistent projection of small area test results to future use.

Consult a BASF representative for more information concerning additives or adjuvants.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Sugar beet (leaves, roots and tops)</b>	Powdery mildew ( <i>Erysiphe betae</i> ) Rhizoctonia stem canker and crown rot ( <i>Rhizoctonia solani</i> )	2.3 to 4.5	3	13.5	7

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 14 day interval if conditions for disease development persist. Use the higher rate when disease pressure is high.

Sugar beet leaves, roots and tops may be fed no sooner than 7 days after last application.

**Sercadis Tank Mixes:** **Sercadis** can be tank mixed with herbicides such as **Poast® herbicide**, **Select® herbicide**, **Assure® II herbicide** or **Prism® herbicide** for postemergence control of grasses in sugar beet. **DO NOT** use silicone-based adjuvants in such combinations. **Sercadis** tank mix combinations can include crop oil concentrate (COC) or methylated seed oil (MSO); however, crop injury may result. The likelihood and level of injury tends to increase with increasing rates of COC or MSO. See the **Additives and Tank Mixing Information** and **Mixing Order** sections for more details.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 13.5 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than one (1) application of **Sercadis** before the 4-leaf stage of plant growth. After the 4-leaf stage of plant growth, **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Sugarcane*	Brown rust ( <i>Puccinia melanocephala</i> )  Orange rust ( <i>Puccinia kuehnii</i> )	5.7	2	11.4	14

**Application Directions.** Begin applications of **Sercadis** at the first sign of disease. Repeat applications on 14 to 28 day intervals as needed if conditions for rust infection continue. Use the shorter interval and/or the higher rate when disease pressure is high.

**Sercadis** can be applied by ground or air. When applying by air, **DO NOT** use less than 5 gallons of spray solution per acre.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 11.4 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

\*Not registered for use in California.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Tree nuts group*</b>	Alternaria late blight ( <i>Alternaria</i> spp.)	3.4 to 5.7	3	17.1	14
African nut-tree	Botrytis blossom and shoot blight ( <i>Botrytis cinerea</i> )				
Almond	Brown rot/Blossom blight ( <i>Monilinia</i> spp.)				
Beechnut	Eastern filbert blight ( <i>Anisogramma anomala</i> )				
Brazil nut	Green fruit rot/Jacket rot ( <i>Botrytis cinerea</i> , <i>Sclerotinia sclerotiorum</i> , <i>Monilinia laxa</i> )				
Brazilian pine	Leaf rust ( <i>Tranzschelia discolor</i> )				
Bunya	Panicle and shoot blight ( <i>Botryosphaeria dothidea</i> )				
Bur oak	Scab ( <i>Cladosporium carpophilum</i> , <i>C. caryigenum</i> )				
Butternut	Shothole ( <i>Wilsonomyces carpophilus</i> )				
Cajou nut	<b>Suppression only</b>				
Candlenut	Hull rot ( <i>Rhizopus stolonifer</i> and <i>Monilinia</i> spp.)				
Cashew					
Chestnut					
Chinquapin					
Coconut					
Coquito nut					
Dika nut					
Ginkgo					
Guiana chestnut					
Hazelnut (Filbert)					
Heartnut					
Hickory nut					
Japanese horse-chestnut					
Macadamia nut					
Mongongo nut					
Monkey-pot					
Monkey puzzle nut					
Okari nut					
Pachira nut					
Peach palm nut					
Pecan					
Pequi					
Pili nut					
Pine nut					
Pistachio					
Sapucaia nut					
Tropical almond					
Walnut, black					
Walnut, English					
Yellowhorn					
Cultivars, varieties, and/or hybrids of these					

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

**Tree nuts group\*** (continued)

**Application Directions.** For almond, begin applications of **Sercadis** prior to onset of disease development and continue on a 7 to 14 day interval up to 14 days before harvest.

**For filbert,** begin applications at budswell to budbreak, or prior to infection and onset of disease development. Continue on a 7 to 14 day interval to cover and protect new growth.

**For pecan,** begin applications of **Sercadis** prior to onset of disease development and continue on a 7 to 21 day interval for the control of scab. Use the shorter interval and/or the higher rate when disease pressure is high.

**For pistachio,** apply **Sercadis** prior to onset of disease development and continue on a 10 to 30 day interval. Use the higher rate and shorter intervals when disease pressure is high.

**For all other crops listed,** apply **Sercadis** prior to disease development and continue on a 7 to 28 day interval. In all cases use the shorter interval when shoot growth is rapid.

No restriction on livestock feeding of almond hulls.

For aerial application to tree nuts, **DO NOT** use less than 10 gallons of spray solution per acre.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 17.1 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

\*Not registered for use in California.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Tuberous and corm vegetables subgroup</b> <b>Potato</b> Arracacha Arrowroot Cassava (bitter and sweet) Chayote (root) Chinese artichoke Chufa Dasheen (taro) Edible canna Ginger Jerusalem artichoke Leren Sweet potato Tanier True yam Turmeric Yam bean	Black dot ( <i>Colletotrichum coccodes</i> )	2.3 to 4.5	3	13.5	7
	Early blight ( <i>Alternaria solani</i> ) Leaf spot ( <i>Cercospora</i> spp., <i>Alternaria</i> spp.) Powdery mildew ( <i>Erysiphe</i> spp., <i>Leveillula taurica</i> ) Rust ( <i>Uromyces</i> spp., <i>Puccinia</i> spp.)	4.5			

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development and continue on a 7 to 14 day interval. The lower rate and longer interval can be used early season prior to the observance of symptoms and when disease pressure is low.

Use the higher rates and shorter intervals once disease has been confirmed in your area or weather conditions are conducive to disease development.

\*The maximum product rate per season includes the combination of infurrow and foliar uses (for above-listed crops, infurrow use is permitted in potato only).

No livestock feeding restrictions.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 13.5 fl ozs of **Sercadis** per acre per season. **DO NOT** apply more than three (3) applications of **Sercadis** per season.

**DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

(continued)

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** *(continued)*

**Tuberous and corm vegetables subgroup** *(continued)*

**Instructions for Infurrow Use to Aid in the Control of Soilborne Rhizoctonia in Potatoes**

Use 0.31 fl oz of **Sercadis** per 1000 row feet (for applications on 32-inch or 34-inch rows, the maximum application rate is 0.27 fl oz/1000 row feet). Refer to the chart below to determine the rate per acre. Apply at planting as an infurrow spray by directing spray pattern to uniformly cover seed pieces and surrounding soil. The spray pattern should be a 4 to 8 inch band that is applied to the seed piece prior to being covered with soil.

When Rhizoctonia disease pressure conditions are expected to be severe or if the field has a history of Rhizoctonia infestations, use **Sercadis** at 0.27 to 0.31 fl oz product per 1000 row feet and/or tank mix with a fungicide having a different mode of action.

Use a minimum volume of application of 5 gallons of water per acre.

Product Rate per 1000 row feet  (fl oz product)	Product Rate per Acre (fl ozs product)				
	32-inch rows	34-inch rows	36-inch rows	38-inch rows	40-inch rows
0.31	See footnote <sup>1</sup>	See footnote <sup>1</sup>	4.5	4.26	4.05

<sup>1</sup>For 32-inch or 34-inch rows, use a maximum of 0.27 fl oz product per 1000 row feet.

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**Table 2. Sercadis® Xemium® brand fungicide Crop-specific Directions** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Applications per Season	Maximum Product Rate per Season (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Wheat and triticale	Black point (Kernel blight or Head mold) <i>(Cochliobolus sativus,</i> <i>Alternaria spp.,</i> <i>Helminthosporium spp.)</i> Eyespot <i>(Tapesia spp.)</i> Leaf rust <i>(Puccinia spp.)</i> Powdery mildew <i>(Blumeria graminis f. sp. tritici)</i> Septoria leaf and glume blotch <i>(Septoria spp., Stagonospora spp.)</i> Spot blotch <i>(Cochliobolus sativus)</i> Stem rust <i>(Puccinia graminis f. sp. tritici)</i> Stripe rust <i>(Puccinia striiformis f. sp. tritici)</i> Tan spot (Yellow leaf spot) <i>(Pyrenophora spp.)</i>	2.3 to 4.5	2	9	21

**Application Directions.** For optimal disease control, begin applications of **Sercadis** prior to disease development. Use higher rate when disease pressure is high. To maximize yields in cereals, it is important to protect the flag leaf. Apply **Sercadis** immediately after flag leaf emergence for optimum results.

**Sercadis** does not control Fusarium head blight (head scab) or prevent the reductions in grain quality that can result from this disease. When head blight is a concern, growers should manage this disease with fungicides that are labeled for and effective in managing this disease, and with cultural practices like crop rotation and plowing to reduce crop residues that serve as an inoculum source.

**DO NOT** harvest wheat hay or feed green-chopped wheat within 7 days of last application.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** apply more than 9 fl ozs of **Sercadis** per acre per season. **DO NOT** make more than two (2) sequential applications of **Sercadis** before alternating to a labeled **non-Group 7** fungicide.

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The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

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